



AMATEUR RADIO DIGITAL COMMUNICATIONS

The Latest from ARDC

Building communities
that learn, experiment, and do

Hamvention 2026 • Xenia, Ohio

Rosy Schechter KJ7RYV

John Burwell KI5QKX

A person is working on an electronics project at a desk. They are holding a small circuit board with their left hand. A soldering iron is plugged into a power outlet on the wall. The desk is covered with a brown paper mat. A printed circuit board (PCB) is visible on the desk, with various components and text. The word "Welcome" is overlaid in large white letters on the image.

Welcome



THANK YOU TO
Airspy.US
1201-1202



ARDC
AMATEUR RADIO DIGITAL COMMUNICATIONS
We make grants to support,
promote, and enhance:
• Equipment
• Personnel
• Development
• Community and
• Education
If you need us or want us, contact us at:
info@ardc.org.au

Scan to
connect with
ARDC



A thriving global community
of learners, experimenters, and contributors
advancing freedom
with open source
communication and information technology

ardc.net/about/vision

Turning vision into practice

Promote

Learning

Promote

Experimenting

Promote

Doing



Public IP for amateur radio



Activity across the community

Learning

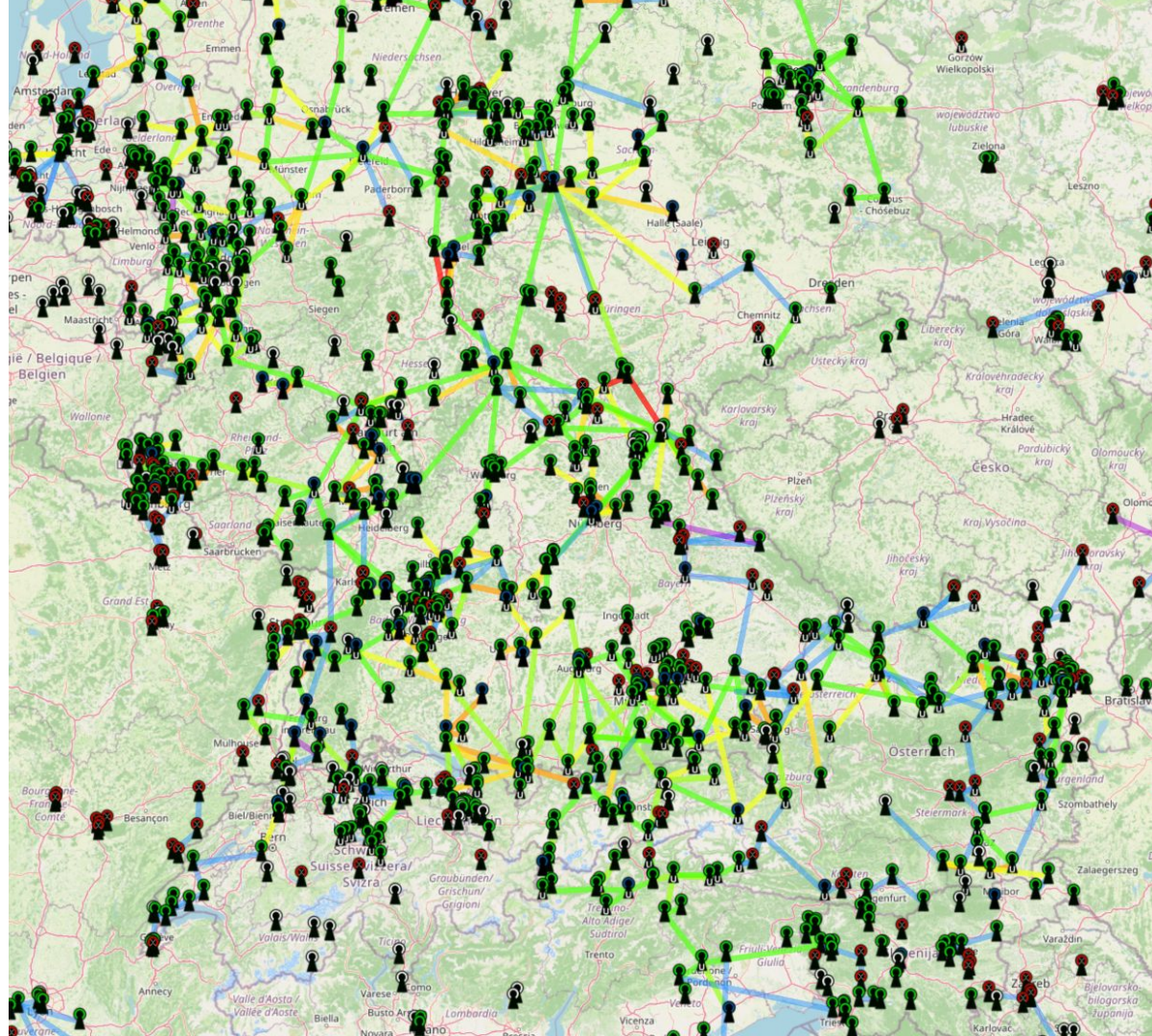
Experimentation

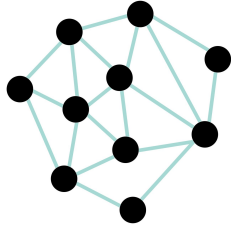
Remote operation

Community networks

Repeater linking

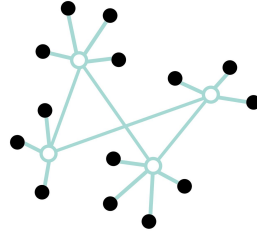
Home lab





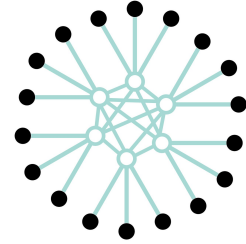
IPIP Mesh

Community-built
networks
linked together



BGP

Publicly routed
autonomous
systems



44Net Connect

Access
with modern devices
from today's networks

44Net Connect

connect.44net.cloud

1,457

Tunnels

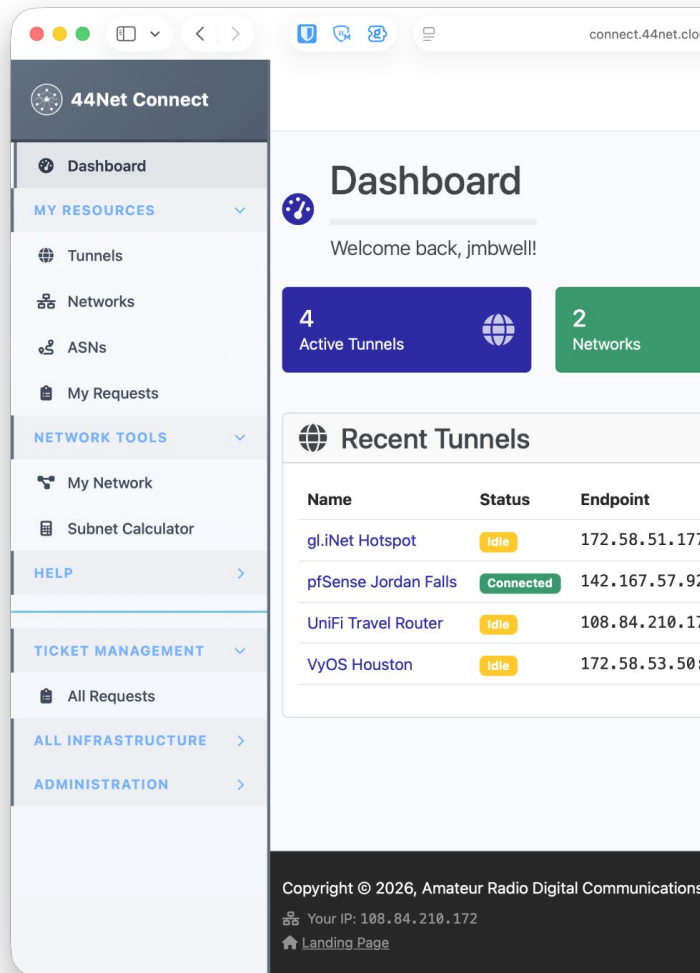
30%

New assignments

Contributors

Adam Lewis KC7GDY, Zachary Seguin VA3ZTS, John Hays K7VE SK
Technical Advisory Committee (TAC), and ARDC Tech Team

Figures as of May 9, 2026.



More people wanting to help

100+

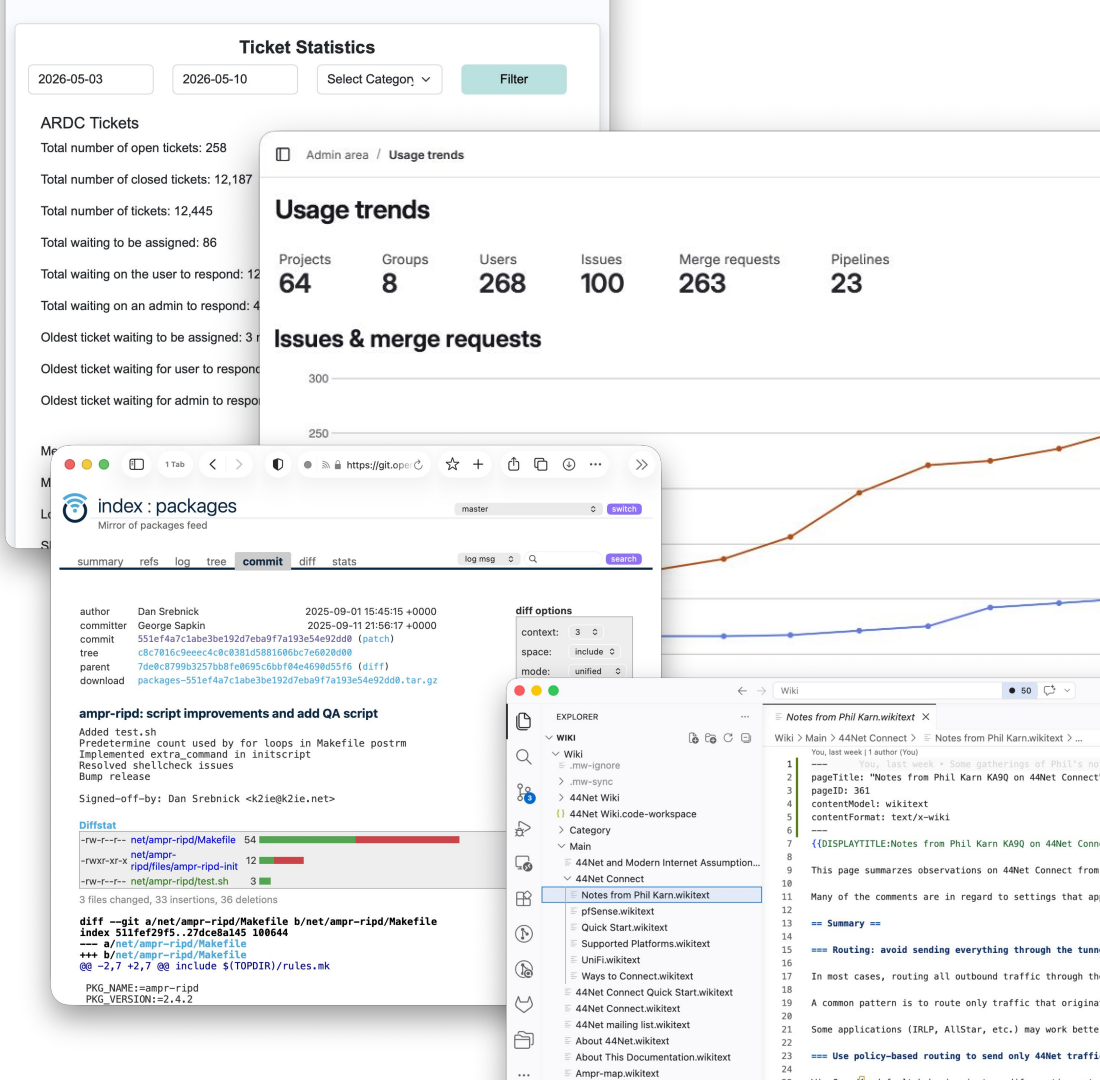
Volunteer Contributors

6+

New Developers

40+

TAC Applicants



44 Years of 44Net

September 1981
Assigned Numbers

Network Numbers

036.rrr.rrr.rrr	SU-NET	Stanford University Ethernet	[MRC]
037.rrr.rrr.rrr	DECNET	Digital Equipment Network	[DRL]
038.rrr.rrr.rrr	DECNET-TEST	Test Digital Equipment Net	[DRL]
039.rrr.rrr.rrr	SRINET	SRI Local Network	[GEOF]
040.rrr.rrr.rrr	CISLNET	CISL Multics Network	[CH2]
041.rrr.rrr.rrr	BBN-LN-TEST	BBN Local Network Testbed	[KTP]
042.rrr.rrr.rrr	SLNET	LLL-S1-NET	[EAK]
043.rrr.rrr.rrr	INTELPOST	COMSAT INTELPOST	[DLM1]
044.rrr.rrr.rrr	AMPRNET	Amature Radio Experiment Net	[HM]
044.rrr.rrr.rrr-126.rrr.rrr.rrr		Unassigned	[JBP]
127.rrr.rrr.rrr		Reserved	[JBP]

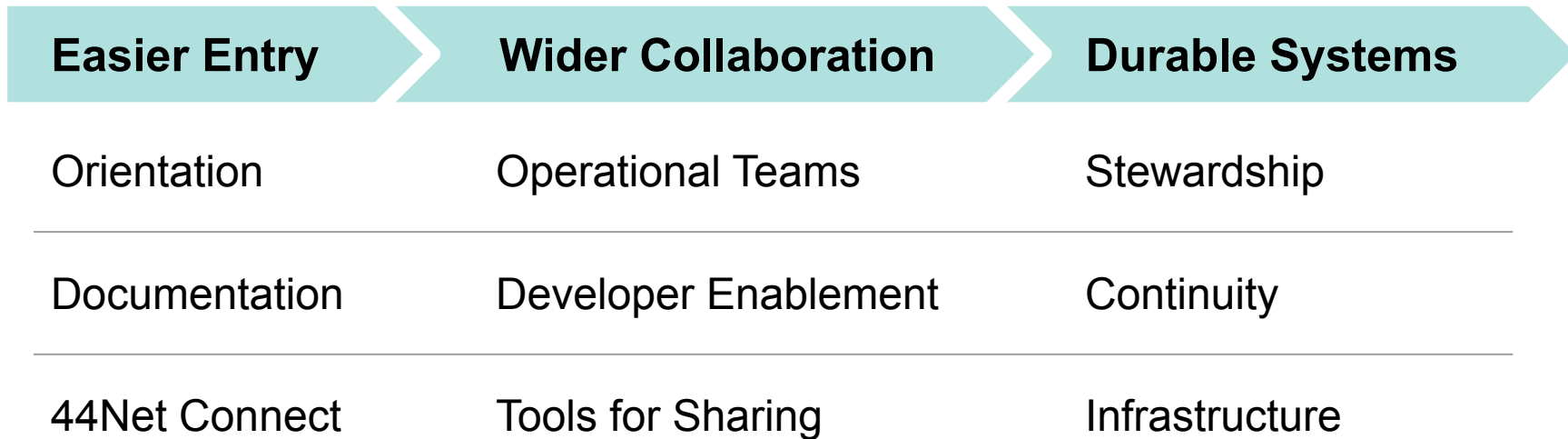
Class B Networks

Internet Address	Name	Network	Reference
-----	----	-----	-----
128.000.rrr.rrr		Reserved	
128.001.rrr.rrr-128.254.rrr.rrr		Unassigned	
191.255.rrr.rrr		Reserved	

Class C Networks



Building the conditions for participation



From individuals to communities



Talk With Us!

Take Home a Tunnel!

Booth 1302



Grantee Forum



AMSAT

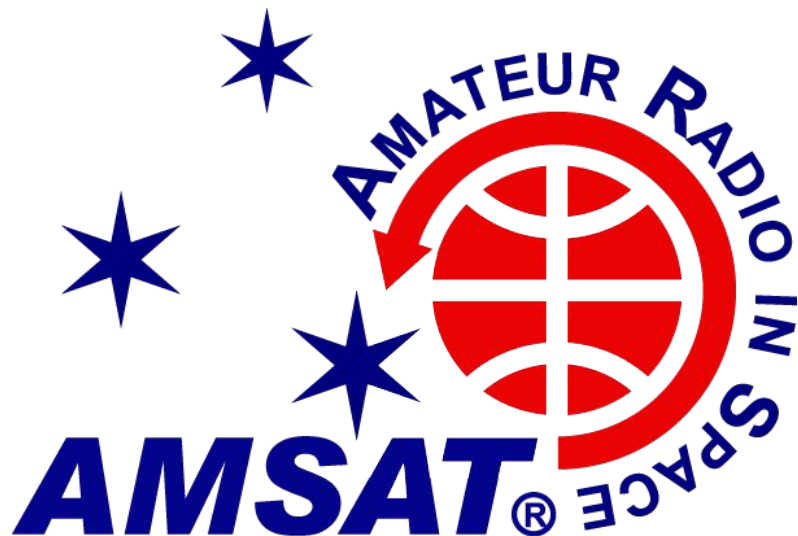


AMSAT

Radio Amateur Satellite Corporation Youth Initiative

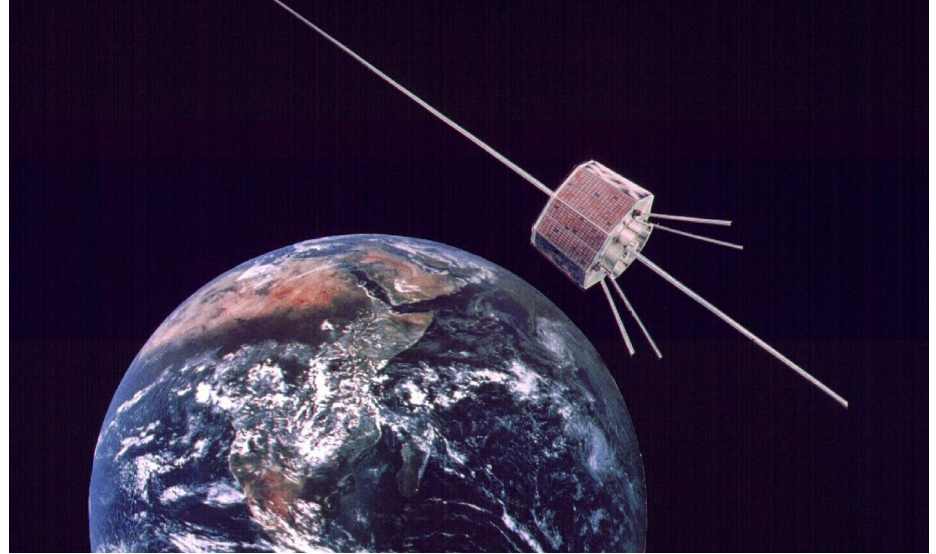
ARDC Forum
May 15, 2026

Frank Karnauskas N1UW
Director / VP-Development



AMSAT

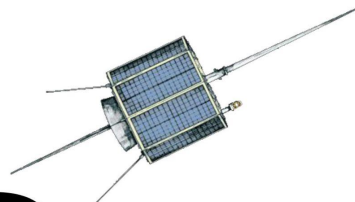
- Designs, builds, and operates Satellites for:
 - Educational
 - Scientific purposes
- Founded in 1969



AMSAT Youth Initiative

- BuzzSat!
 - Designed for wide reach
 - Community based
- Not an outright AR program

Your future's looking up!



BuzzSat®

A Service of AMSAT – The Radio Amateur Satellite Corporation



Satellites in Space Help Us Live a Better Life on Earth!

BuzzSat

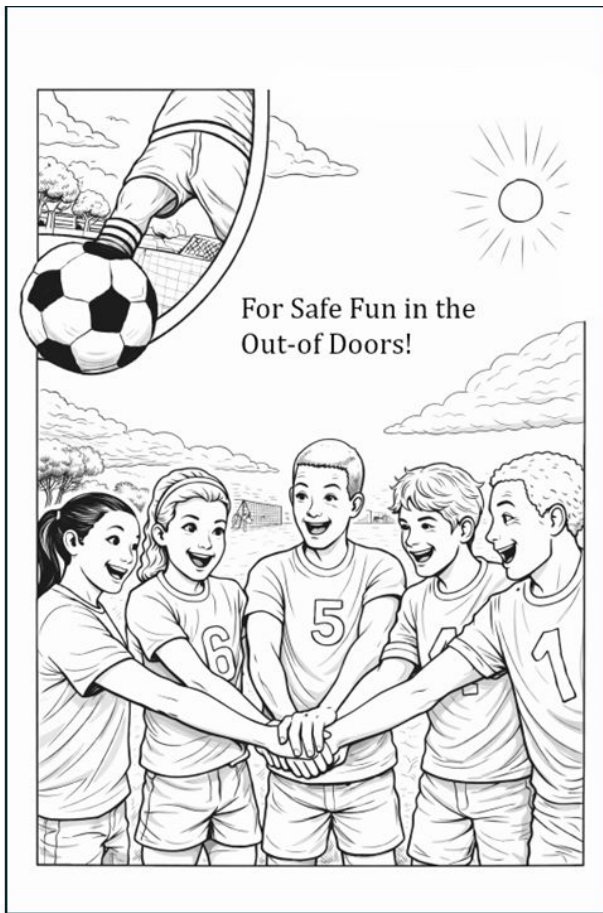
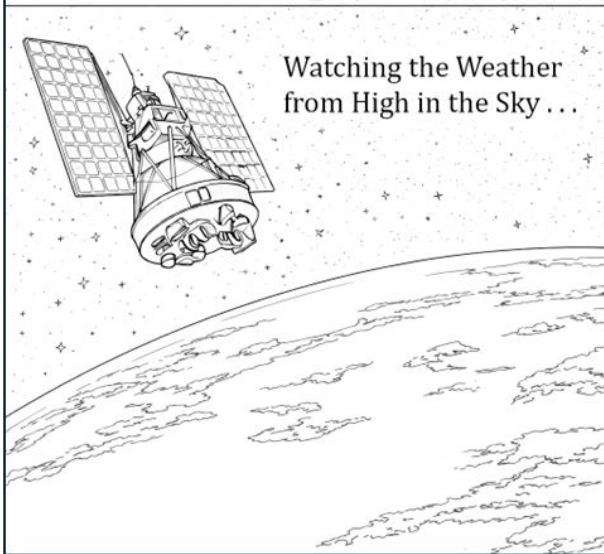
- Topics:
 - Meteorology
 - Climate change
 - Pollution control
 - Natural resources
 - Fighting wildfires
 - Wildlife preservation
 - Agriculture
 - Space exploration
 - Research in space
 - Communications
 - Broadcasting
 - Search and Rescue

Sharing Messages
and Pictures ...



With Friends
Around the World!





How Satellites Are Used In Agriculture

Satellites help farmers grow food more efficiently. From space, they collect detailed images that show how crops, soil, and weather are changing — often before problems can be seen on the ground.

Farmers use this information to decide when to water, fertilize, and harvest, which saves money and helps crops grow better.

How Satellites Help Farmers

Crop Health:

Satellites measure how plants reflect light to see if they are healthy. This can reveal disease, pests, or a lack of nutrients early.

Smarter Water Use:

By checking soil moisture, satellites help farmers give crops the exact amount of water they need — especially important during droughts.

Predicting Harvests:

Long-term satellite data helps farmers estimate when crops will be ready and how much food they will produce.

Using Fewer Chemicals:

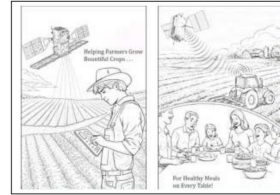
Farmers can treat only the areas that need fertilizer or pesticides instead of spraying entire fields.

Mapping Land:

Satellites track field boundaries, crop types, and how land is being used.

Watching the Environment:

They also monitor floods, droughts, and other conditions that can damage crops.



Monitoring Crop Health from Space

Some satellites use *visible* and *infrared light* to check how stressed plants are.

For example, the *Visible Infrared Imaging Radiometer Suite (VIIRS)* helps scientists:

- Estimate crop health during extreme weather
- See how droughts or floods might affect food production
- Understand how weather changes impact farms

Watching Droughts and Floods

Weather is very important for farming. Crops need the right amount of water and the right temperatures to grow.

A group of satellites called the *Joint Polar Satellite System (JPSS)* tracks severe weather on Earth. With better information, farmers can prepare for disasters and protect their crops.

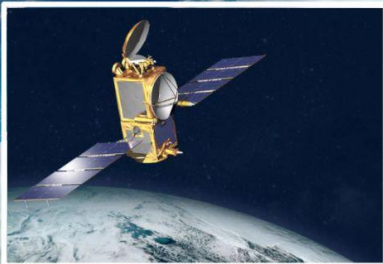
Driverless Tractors

A driverless tractor is a farm vehicle that can work without a person driving it. Today, these tractors use GPS and wireless technology to farm the land without needing a driver inside.

There are two main types of driverless tractors. Some are fully autonomous, meaning they operate completely on their own. Others use supervised autonomy, which means a person watches and monitors the tractor from a control station or another nearby vehicle.



Satelites en el espacio nos ayudan a vivir mejor en Tierra!



An Introduction to

Satellite Meteorology

Presented by

BuzzSat[®]

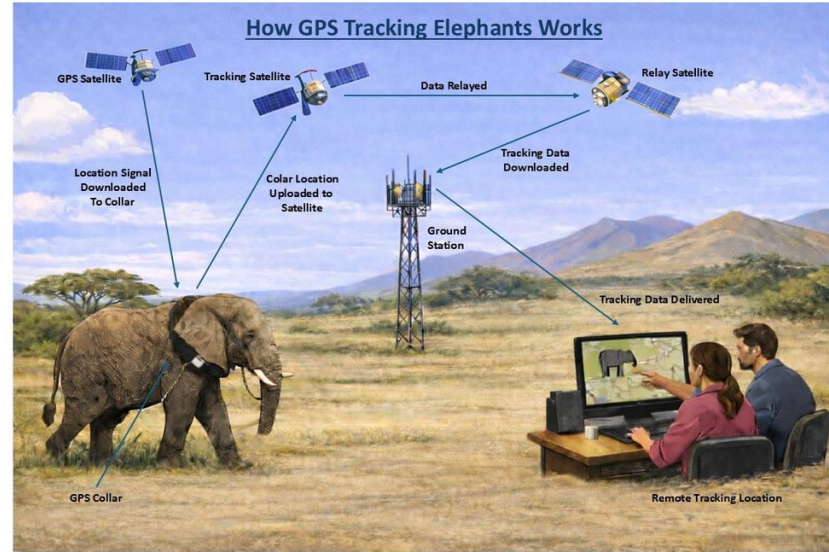
A Service of AMSAT – The Radio Amateur Satellite Corporation

Enter

How GPS Collects Data for Researchers

Chan and colleagues used eight years of GPS tracking data to create a “movescape” that depicted not just where elephants were, but how long they stayed and how fast they moved on the landscape.

The data revealed only three connective routes between Etosha National Park and protected lands in the Kunene region.



Elephants need to wear a _____ for the GPS to work.

Hat

Sandals

GPS Collar

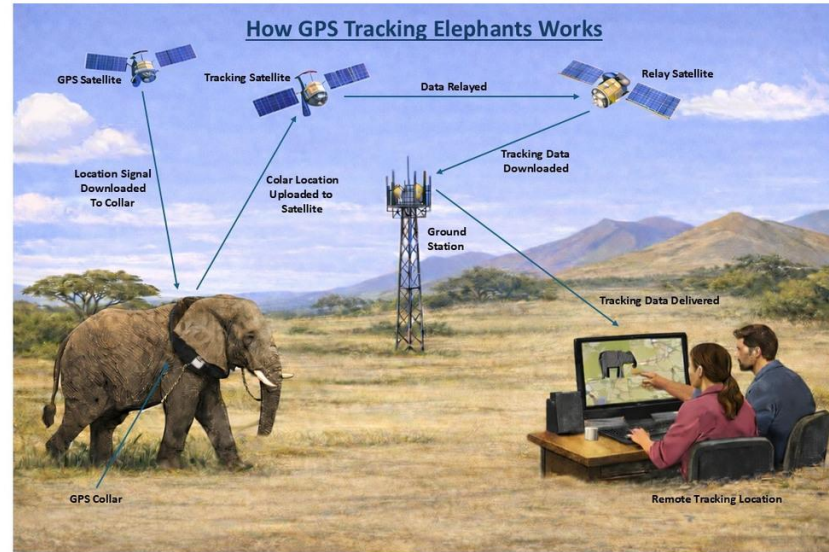
Disguise



How GPS Collects Data for Researchers

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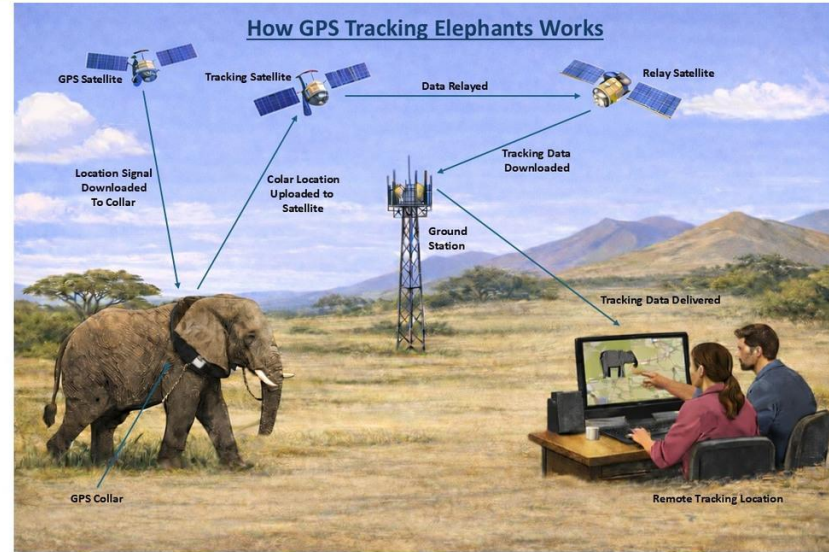
Disguise

Incorrect. Try again.

How GPS Collects Data for Researchers

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The data revealed only three connective routes between Etosha National Park and protected lands in the Kunene region.



Elephants need to wear a _____ for the GPS to work.

Hat

Sandals

GPS Collar

Disguise

Correct!

NEXT



GPS Tracking Polar Bears

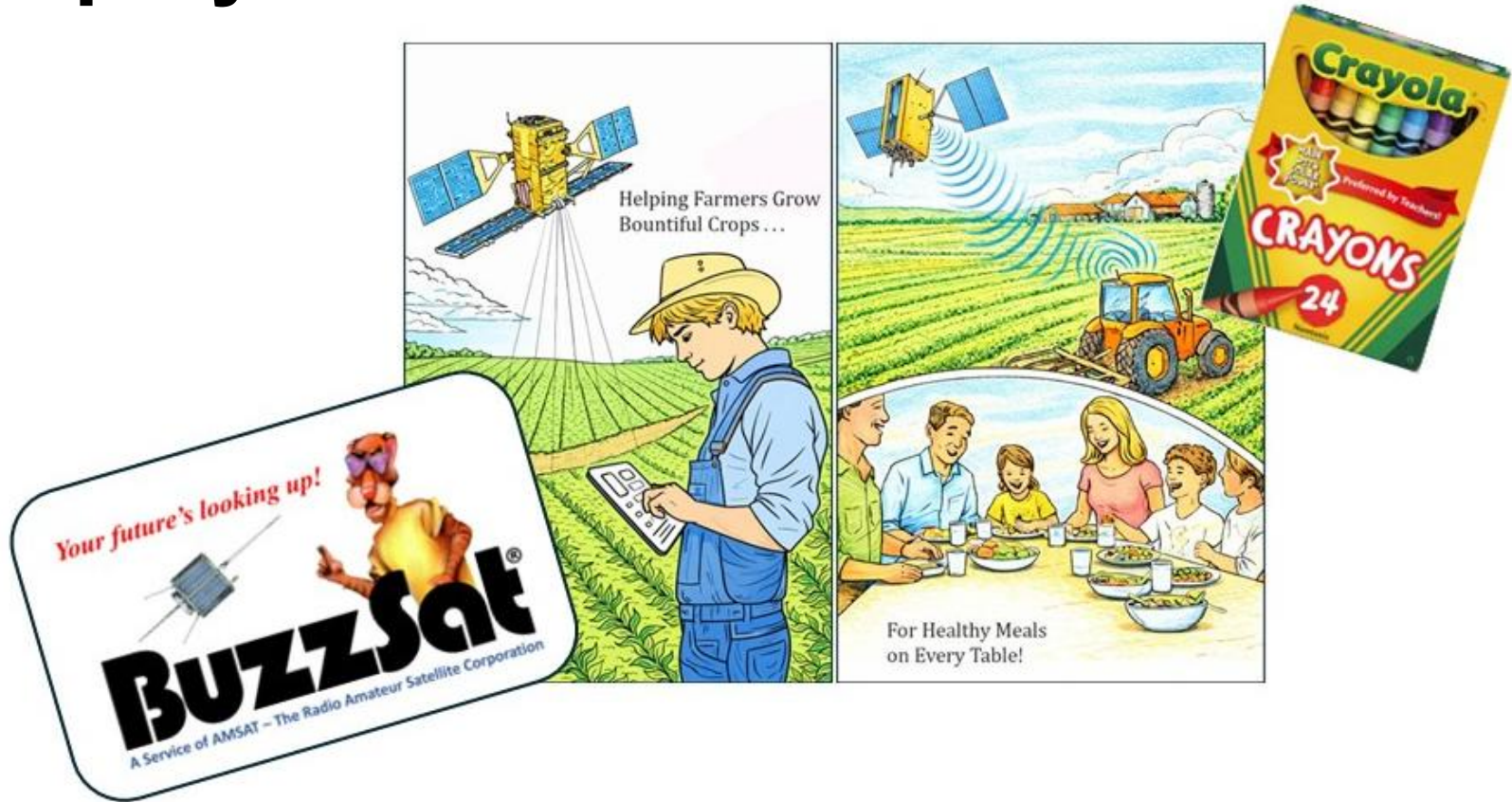
USGS Alaska Science Center scientists collect data from wildlife tracking devices to determine locations of animals throughout their annual cycles.

This allows them to understand patterns of habitat use, quantify time spent on various behaviors, and identify geographic areas repeatedly used by wildlife that may indicate sites of importance to species and populations.



Click on the polar bear.

Stop by AMSAT Booth #1007!



Your future's looking up!



BuzzSat®

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ARISS



ARISS-USA

Amateur Radio on the International Space Station

ARDC Forum
May 15, 2026

Frank Bauer KA3HDO
Executive Director



ESA Astronaut Sophie Adenot sending a live heart emoji on April 20 during an ARISS Ham Video school connection from the International Space Station

ARISS Overview



Inspire | Explore | Experiment

- Independent, ISS backup communications capability
- Boosts ISS crew morale through enriching youth, community, and amateur radio engagement

ARISS Overview



- Workforce development powerhouse:
 - Inspires, engages, and educates K-16 youth in STEM/STEAM
 - 10-minute amateur radio contacts with the on-orbit crew
- Pre-contact preparations span 4-to-6-months. Students learn about:
 - Space exploration and science research
 - Space communications
 - Radio science & technology using amateur (ham) radio
 - Ongoing ISS research activities

ARISS Overview



- Youth contacts keep:
 - Astronauts proficient in ARISS radio ops
 - Ground stations proficient to support ISS backup comm

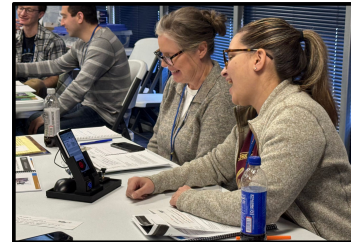
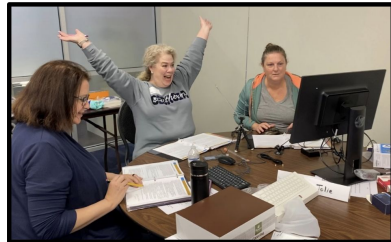


STEREO

Student and Teacher Education via Radio Experimentation and Operations



- Develop and distribute radio science education kit for various educational settings (SPARKI)
- Workshops and outreach to Educate the Educator on use of radio kits, developing winning ARISS contact proposals, and learning about classroom lessons on space and amateur radio
- Assure ISS astronaut contacts continue through steady operations funding



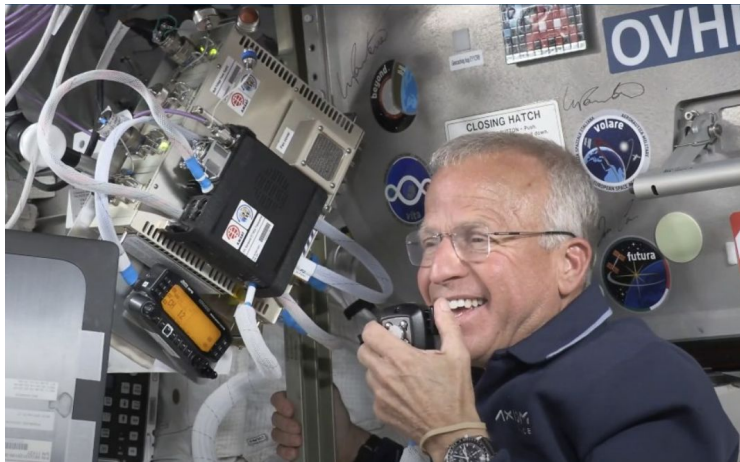
SPARKI

Space Pioneers Amateur Radio Kit Initiative

- Learn and experiment with contact-related STEAM concepts:
 - Waves and frequency
 - Basic electronics
 - Codes and cyphers
 - Software defined radio
- Instructor manual for teaching key concepts



ARISS: Talk to Us!



Axiom-2 Private Astronaut, John Shoffner W7DU, will describe his experiences on the ISS in 2022 at the ARISS forum and will be at the ARISS booth immediately following our forum!

- Visit our booth:
Building 4 (Volta), Booth #4301, #4302
- Forum
 - Saturday (5/16), 1:10 - 2:20p, Room 2
 - Topic: *Celebrating 25 Years on ISS and Pioneering New Spaceflight Opportunities for Hams and Youth*
- Email: frank.bauer@ariss-usa.org



DLARC



DLARC

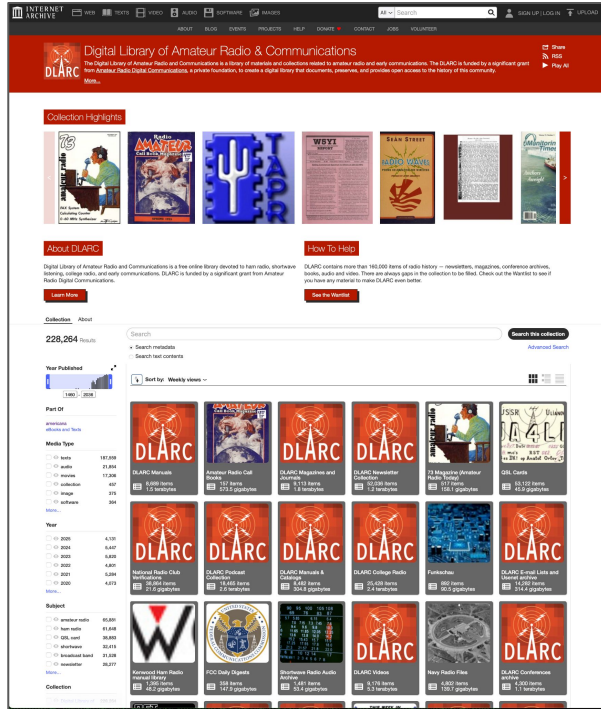
**Digital Library
of Amateur Radio
& Communications**

**ARDC Forum
May 15, 2026**

**Kay Savetz K6KJN
Curator**



DLARC



- **FREE** online library
 - Ham radio
 - Shortwave
 - Related communications
- **Goal:** Offer unparalleled library of resources for hams and researchers
- **Website:** <https://archive.org/details/dlarc>

Just some of the material available in the DLARC library

Magazines

73 Amateur Radio
QST (1915-1961)
CQ (1946-1963)
Coop's Satellite Digest
DXing Horizons
Florida Skip
Mobile Radio Technology
Monitoring Times
Radio & Television News
Radio Craft
RTTY Journal
Telegraphic Journal and
Electrical Review
...and many more

Conference Archives

AMSAT Symposium
Comm Academy
TAPR Computer Networking &
Digital Communications Conf.
FOSDEM radio presentations
GRCon GNU Radio Conference
HamSCI
International EME Conference
MicroHams Digital Conference
Pacificon
QSO Today Virtual Ham Expo
Software Defined Radio Academy
...and more

Audio

Amateur Radio Newslines
California Historical Radio Society News
Glenn Hauser's World of Radio
International Radio Report
National Radio Club DX Audio Service
RAIN Report • WIA News

Plus

Historical callbooks
50,000+ newsletters
Radio catalogs
College radio archives
Early Internet ham radio discussions
Robert B. Cooper's personal archives

Digital Library of Amateur Radio and Communications is a free online library devoted to ham radio, shortwave listening, college radio, and early communications. DLARC is a service of Internet Archive, funded by a significant grant from Amateur Radio Digital Communications.

archive.org/details/dlarc



Fair Radio Project



DLARC: Project Updates



- **>2M pages** scanned over 2 years
 - Radio material never before seen online:
 - Magazines
 - Catalogs
 - QSL cards
 - Ephemera

DLARC: What Can You Do With It?



- **Use** the library. Explore it!
 - Search for your call sign
 - >100 year-old books and newsletters dedicated to radio
 - Tens of thousands of equipment manuals

DLARC: Talk to Us!



- Visit our booth:
Building 1 (Maxim) Booth #1506
- Material to contribute?
 - “Most wanted” items:
<https://archive.org/details/dlarc-wantlist>



Thank you, Grantees!



Your work is helping people
learn, experiment, and do

Have an idea worth exploring?

Upcoming Review Cycles



ardc.net/apply



Priority Areas for Funding

Research & Development

Open source solutions to real technical problems

Space-Based Communication

Satellite and ground station comms and education

Open Source Education

Videos, workshops, and hands-on projects

Join in

Learn

Explore projects and docs

ardc.net • ampr.org

Experiment

Try 44Net Connect, join a network

connect.44net.cloud

Do

Volunteer, apply, collaborate, build

ardc.net/grants



Read on

Vision & Strategy

Grants & Community

Projects

Technology & 44Net

Outreach & Operations

ardc.net/about/publications/



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Come talk with us

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contact@ardc.net

